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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,902	08/15/2001	Francisco Diaz Carrena	2591-1-001	5137

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EXAMINER

BOTTORFF, CHRISTOPHER

ART UNIT	PAPER NUMBER
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3618

DATE MAILED: 02/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/856,902

Applicant(s)

DIAZ CARMENA ET AL.

Examiner

Christopher Bottorff

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The amendment filed December 29, 2003 has been entered. Claims 9-16 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pajerski et al. US 4,697,661 in view of Hecker et al. US 3,986,090.

Pajerski et al. discloses a system for the controlled operation of a mobile X-ray unit propelled by electric motors. The system includes two drive wheels 12, 14 mounted in an axially opposed manner, an independent electric motor 18 with a corresponding independent control means for propelling drive wheel 12, an independent electric motor 20 with a corresponding independent control means for propelling drive wheel 14. See Figure 6. Each control means includes an independent power amplifier 22, 24 and a plurality of sensor means. Each power amplifier amplifies the electrical signals produced by the sensor means and supplies electric power to the electric motor. Each sensor means comprises extension-measuring gauges G_{1-4} arranged on bands 72, 74 of push and pull elements, wherein the sensors detect a mechanical force of the push

pull elements, transform the mechanical force into electrical signals, and are capable of being operated separately. See Figure 8.

The drive wheels are propelled in accordance with a torque corresponding to movement ordered by the sensor means. The degree and direction of the mechanical force applied to the push pull elements controls the direction and traveling speed of the device for turning the device sideways and spinning the device. See column 6, lines 1-12. Turning the device sideways is achieved by applying a force greater on a first push pull element than on the other push pull element, so that the first control means makes the first motor rotate at a greater speed than the second motor, which causes the first wheel to rotate more quickly than the second wheel. Spinning the device is achieved by applying a force on a first push pull element and an opposite force on the other push pull element, so that the first control means and the second control means make the first motor and the second motor rotate in opposite directions, which causes the wheels to rotate in opposite directions.

The push and pull elements are formed by the bands 72, 74 whose first extremities are coupled to a connecting element 16 and whose second extremities are held immobile in fasteners. See figures 6 and 7. The push and pull elements connected to the force sensors and connecting element configure an assembly formed by a handle. In addition, Applicants concede that the features of Pajerski et al. are represented by the preamble of claim 9. See page 6, lines 27-28, of the remarks to the amendment filed May 22, 2003. However, Pajerski et al. does not disclose an

amplification factor that is a function of the weight of the device, a feedback circuit, and first and second preamplifier means.

Hecker et al. teaches that the practice of providing motor control means in mobile X-ray units with an amplification factor that is a function of the weight of the device (see column 2, lines 4-8 and column 4, lines 9-14), a feedback circuit (column 4, lines 15-26 and 38-45), and first and second preamplifiers 12, 14 (column 4, lines 6-10 and 27-29) was old and well known in the art at the time the invention was made. The feedback circuit is provided in a power amplifier for comparing, by means of a comparator means 17, a true value (at the output of element 18) of an electric current fed to the electric motor with a pre-established nominal value S_u of an electric current needed to achieve the desired operation of the motor. See column 4, lines 38-42. Error signals are generated from differences detected between the true value and the pre-established value. The electric input signals to the power amplifier are altered by the error signals, so as to apply the necessary power to the motor so that the needed torque for producing movement is generated by the motor. See column 4, lines 42-45.

Providing the control means of Pajerski et al. with an amplification factor that is a function of the weight of the device would have been obvious to one of ordinary skill in the art at the time the invention was made. This would prevent the weight from adversely influencing motor control. Providing the control means of Pajerski et al. with a feedback circuit would have been obvious to one of ordinary skill in the art at the time the invention was made. This would account for any difference between the actual and desired values of motor speed. Also, providing the control means of Pajerski et al. with

first and second preamplifiers would have been obvious to one of ordinary skill in the art at the time the invention was made. This would amplify the sensor signals and the signal representing the difference between the actual and desired values of motor speed. Furthermore, this combined system would be capable of functioning as claimed.

Response to Arguments

Applicant's arguments filed December 29, 2003 have been fully considered but they are not persuasive.

Pages 6-8 of the remarks allege distinction between the functions of the feedback circuit and push pull element control of the claimed invention and the functions of the cited prior art. However, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *in re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997). "Apparatus claims cover what a device *is*, not what a device *does*." *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 900 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990) (emphasis in original). Therefore, the functions of the claimed feedback circuits of the power amplifiers and the functions of the claimed push pull element control do not distinguish the claimed apparatus over the structures of the prior art.

Furthermore, there is no distinction between the function of the claimed amplifier feedback circuit and the amplifier feedback circuit of the apparatus resulting from the combination of Pajerski et al. and Hecker et al. Claim 9 requires a comparator means of the feedback circuit to compare a true value of a current fed to the motor with a pre-

established nominal value of a current needed to achieve movement of the wheel. The claims define the comparison of current, rather than the measurement of current. This comparison does not require a specific form of measurement and allows for the measurement of a mechanical magnitude that is represented by an electrical current. The alleged distinction of measuring an electric magnitude with the claimed apparatus and measuring a mechanical magnitude with the circuit of Hecker et al. is not captured by the claims.

The function of the circuit of the present invention is discussed on lines 23-30 of page 7 of the specification. Lines 26 and 27 of page 7 indicate that the motor current is proportional to the motor torque, and is therefore representative of a measured mechanical magnitude. This function requires the measurement of the motor torque, converting that measured torque into current, and processing the current in the circuit where its magnitude is compared with the magnitude of another current. Similarly, in Hecker et al., the comparator means 17 compares electrical magnitudes in the form of current that is proportional to motor speed. Since comparator means 17 is an electrical signal amplifier, it is only capable of comparing electrical magnitudes without regard to what the electrical magnitudes represent. This is also true of the electrical circuit to which comparator means 17 is a part. Although the motor speed is measured and converted into current, it is ultimately processed by the comparator means as an electrical magnitude.

Also, there is no distinction between the function of the claimed push pull element control and the push pull element control of the apparatus resulting from the

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combination of Pajerski et al. and Hecker et al. In the second to the last paragraph on page 8 of the remarks, Applicants contend that the apparatus produced by the combination of Pajerski et al. and Hecker et al. cannot comply with the features added to amended claim 9 since the circuit of Hecker et al. prevents motor operation beyond set limits. However, any limits set by Hecker et al. do not prevent the independent motors of Pajerski et al. from independently operating in different directions and degrees relative to one another. Moreover, the claims do not establish a threshold that could not be achieved by the motors of Pajerski et al. due to limits set by of Hecker et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Bottorff whose telephone number is (703) 308-2183. The examiner can normally be reached on Mon.-Fri. 7:30 a.m. - 4:00 p.m..


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Johnson can be reached on (703) 308-0885. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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2/6/04